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ABSTRACT

This material was designed to assist schools in teaching bicycle safety. As the population grows and competition for road space increases, it is more imperative than ever that we concentrate attention on the need for caution among pupil cyclists. The pamphlet: (1) discusses the role of bicycle safety in classroom instruction and in student organizations; (2) briefly sketches the history of bicycles; (3) discusses bicycle care and inspection, safety codes, and skill tests; and (4) concludes with suggestions for the school, police, and community groups in providing safety education for cyclists. (Author/LAA)

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BICYCLE SAFETY IN ACTION

ADMINISTRATION
PROTECTION
INSTRUCTION

ED 079648

BICYCLE SAFETY IN ACTION

NATIONAL COMMISSION ON SAFETY EDUCATION
NATIONAL EDUCATION ASSOCIATION
1201 Sixteenth Street, N.W.
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1964

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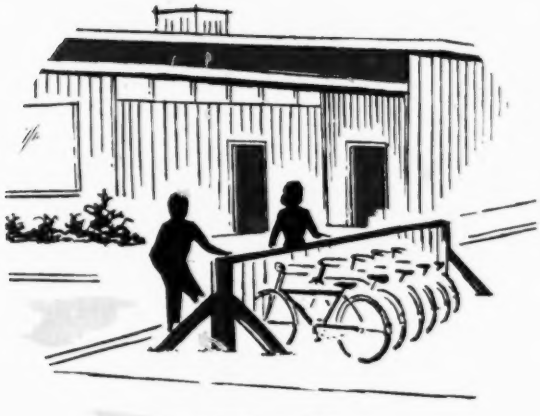


Foreword

FIRST published by the NEA National Commission on Safety Education in 1950, *Bicycle Safety in Action* was designed to assist schools in teaching bicycle safety. The material was developed with special emphasis on learnings in bicycle safety as a part of the total educational experience for children in school. The present revision results from its continuing usefulness and a desire to update the basically sound material in light of current conditions.

Many bicycle safety activities in schools have been special programs of a temporary nature. It is the hope of the Commission that the earlier edition of this bulletin has contributed to more forward-looking programs—ones in which bicycle safety in schools has become a logical area of classroom instruction designed to meet the changing needs of our children. Crowded streets, the number of traffic accidents involving bicycles, and the increasing number of bicycles being used by younger children, mandate our continuing concern for safety in cycling.

Bicycle safety instruction has value beyond that of producing safe cyclists. It fosters sound citizenship values and develops a sense of responsibility while increasing independence and respect for property. It also influences children to take an active interest in related traffic safety problems, including that of becoming a good driver.

The original production was guided by a committee headed by Miss Thelma Reed, Principal, William Volker School, Kansas

City, Missouri. The Commission is indebted to Lonnie Gilliland, director of safety education, Public Schools, Oklahoma City, Oklahoma, for his careful review of the former edition and for his many suggestions for this revision. We acknowledge, too, the many contributions to this revision made by John Auerbach, executive secretary of the Bicycle Institute of America.

The current revision was prepared by William D. Cushman, associate in safety education, NEA National Commission on Safety Education, and was reviewed by Robert L. Marshall, associate executive secretary, NEA National Commission on Safety Education and S. A. Abercrombie, assistant executive secretary, NEA National Commission on Safety Education. The basic program of the Commission is made possible by grants from the Automotive Safety Foundation with supplementary grants from the American Oil Foundation and the Insurance Institute for Highway Safety.

NORMAN KEY, *Executive Secretary*
NEA National Commission on Safety Education

Cycling

—its current status

In the monumental paradox that is, at once, suburbia *and* megalopolis, the bicycle enjoys greater popularity than ever before. Moreover, it continues to maintain a strong position in town and country culture. Figures recently released by the Bicycle Institute of America indicate that 55 million cyclists currently use the nation's streets and highways. About 90 percent of this group are children. Further, each year finds hundreds of thousands of youngsters joining in the fun and exercise that is cycling. It is estimated that there will be 80 million cyclists by 1970.

Cyclists are one ingredient among the many that make up our traffic complex. They are not immune to hazards. As the population grows and competition for road space increases, it is more imperative than ever that we concentrate attention on this area of pupil activity. Proportionally more accidents will occur unless the school, the home, and the community unite their energies to create greater safety in cycling.

Although it is among the safest of all sports, largely due to the efforts of the nation's educators, the number of cycling mishaps is cause for continuing concern. According to recent figures, collisions between bicycles and motor vehicles in one year resulted in 500 deaths and 27,000 injuries in the United States.

Teachers and pupils should study bicycle accidents locally. The types, locations, times of occurrence, cyclist violations, and age groups involved are factors that may be determined from accident records. Armed with such facts, local groups will be better prepared to assess the need and institute sound programs of bicycle safety education.

Bicycle Safety —a part of the school program

Planning for Bicycle Safety

Bicycles present a problem in many communities and offer a challenge to the schools to do something about it. If the school curriculum is closely related to the needs of young people and community life, it is logical to consider this area as a necessary part of that curriculum. An effective bicycle safety education program requires careful planning and involves the cooperation of the principal, faculty, parents, children, and local officials. Initial planning for an effective program of bicycle safety depends on the consideration of such questions as these:

What has the school been doing in bicycle safety instruction?

Has the faculty considered this problem and ways of solving it?

Are the students aware of the problem and do they show an interest in solving it?

Are the parents aware that the extensive use of bicycles is creating a growing problem for young children?

Do the police and other public officials fully recognize the need for bicycle safety instruction?

Answers to these questions will give direction to school planning in bicycle safety. The success of an instructional program hinges on the active interest of the principal, the faculty, and the students. The principal, as in the case of other instructional programs, is responsible for stimulating interest in bicycle safety, for organizing the resources of the school, and for coordinating the instructional program.

Relating Bicycle Safety to Classroom Instruction

Teachers more and more are using everyday situations involving bikes to teach specific information about them and to apply general principles of safety. Bicycle safety instruction in the classroom has a direct and effective influence on children, especially when it is part of the total community effort to achieve safe cycling practices.

In the Lower Grades

Teachers of young children find that many interesting and valuable lessons can be centered around bicycle safety. The three-wheeler or sidewalk tricycle, if not the two-wheeler, is a part of the daily experience of most children as they develop balance and coordination. Sidewalk tricycles are widely used by pre-school children.

Interest in bicycle safety is easily developed among children. Classroom discussion of experiences, pictures, and stories related to bicycles or even of a recent cycling mishap to a member of the group may motivate interest. A practical way of instructing children in bike safety is to conduct demonstrations in the classroom with the aid of several small bicycles or tricycles. These and other lifelike activities will motivate learning in reading, writing, spelling, art, and other phases of the school program.

One second-grade teacher handled the instructional problem in the following well-integrated and interesting manner:

> After noting a news item concerning a boy who rode his bicycle out of a driveway and collided with a car, our class had a general discussion about bicycle safety. Some of the points under discussion did not seem clear to the non-riders so the group suggested that three boys who owned bikes should bring them to school the next day. The class met in the gymnasium and each safety factor was explained, demonstrated, or dramatized.

From this experience, the class developed a safety story and word list which served as source material for language arts and social studies during the following week.

SAFETY STORY

Eddie, Harold, and Albert brought their bicycles to school. We went down to the gymnasium to see them ride. The boys showed us the right way to use a bicycle. We will remember these things:

1. Stay near the curb (for two-wheelers) or on the sidewalk (for three-wheelers).
2. Carry packages only if your bicycle has a basket or luggage carrier.
3. Walk your bike across busy streets.
4. As you move out of a driveway, stop at the curb to look both ways for cars and trucks.
5. If you are riding with friends, stay in a single line.
6. Don't carry anyone on your bike.
7. Obey all traffic laws.
8. The good cyclist rides safely.

WORD LIST

across	carry	luggage	safe	street
basket	curb	near	school	thing
bicycle	cyclist	obey	showed	traffic
bike	diamond	octagon	signal	turn
busy	intersection	package	sign	yield
carrier	laws	round	sprocket	your

A first-grade teacher capitalized on an opportunity to teach a phase of bicycle safety:

The children of Miss Brown's first grade were on a neighborhood walk. They happened to pass John's home. John was very proud of his new bike which he promptly showed to his classmates. "Can you handle it, John?" asked Miss Brown. "No," said John, "it's too big, but Daddy says I'll grow up to it."

Miss Brown saw in this situation a chance to teach bicycle safety. With the help of John's bicycle, two members of the

Safety Patrol, and Mary's bicycle, which was the proper size for her, the class saw a demonstration designed to develop the principle: "Your bike must fit you!"

A third-grade teacher developed important safety precautions with her class in this manner:

The pupils had just finished a story on the invention of the wheel and their interest led to a discussion of bicycles. They agreed to scan the newspapers for pictures and articles. The teacher was surprised the next morning to find her pupils concerned about a tragedy.

Many pupils had brought in clippings about an older boy who had been in a collision. While riding along the street he had been struck and seriously injured by an automobile emerging from a driveway.

The class discussion which followed produced a pertinent thought which was put on the classroom bulletin board under the picture of the crash: "Watch for cars coming out of driveways."

The class liked the idea because of its significance for pedestrians, cyclists, and automobile drivers.

In the Upper Grades

At the intermediate and upper grade levels students take a keen interest in the two-wheeler. Because of its great appeal to these age groups, many teachers find bicycle safety an excellent approach to the entire traffic safety problem. Important phases of traffic safety may be reviewed and emphasized from the point of view of the cyclist.

A bicycle is considered to be a vehicle when on the street or highway and cyclists must observe all traffic laws. Discussions of the purposes of traffic signs, signals, and pavement markings are important to cyclists. Good teaching of bicycle safety practices also develops desirable attitudes toward pedestrians, drivers of automobiles, and other bicycle users.

A sixth-grade teacher described a safety program in action:

Last spring a safety specialist talked to my boys and girls about bicycle safety. He reviewed proper cycling techniques and suggested that the mechanical condition of all bicycles

should be checked. After his talk, the members of the Safety Patrol discussed the subject. They made posters and, in teams of two, displayed them in the classrooms of the younger children. After discussing the topic, the younger children agreed to cooperate in matters of bicycle safety.

Dozens of children from our school patronize a nearby bicycle shop. Noting a number of violations involving bicycles in the area, the boys suggested that we take some of our posters to the shop, including a special one on "Good Cycling Practices." We all agreed and a small group called on the proprietor of the shop. He graciously consented to display the posters and also showed the boys how to examine the mechanical condition of a bicycle.

This visit made our boys and the shop proprietor more conscious of bicycle safety. As a result, fewer violations were noted in the neighborhood and there have been no accidents involving bicycles in faulty mechanical condition.

The principal of a large elementary school reported the following through his Safety Coordinator (the "safety specialist" of the faculty who is assigned specific responsibility in the school's safety program):

During this term, the major emphasis in safety education was on the use and care of bicycles. The work was carried out in three parts:

1. demonstration of bicycle maintenance
2. inspection of bicycles
3. demonstration of good cycling practices.

The first part was initiated by an assembly program featuring a talk on the parts of the bicycle and the requirements for a "safe" bicycle. The talk was illustrated by the use of a number of bicycles, several of which showed signs of neglect.

Pamphlets on bicycle care were then distributed. The assembly program and phamplets stimulated classroom discussions on bicycle maintenance.

The second part, inspection of bicycles, was first introduced as an interest factor during the assembly program. It was fur-

ther publicized by posters, the school paper, and classroom reminders.

Although the full-scale inspection was limited to grades 4-8, more than 150 pupils brought their bicycles. All but a few passed the critical examination. About half of those that failed lacked only an adequate bell or horn and were passed in a follow-up inspection after defects were corrected.

The third part, a demonstration of good cycling, was preceded by an assembly program featuring a motion picture on bicycle safety.

By special arrangement with the local police, an intersection was blocked off for the demonstration. To the accompaniment of a running commentary by the Safety Patrol captain, several boys and girls showed correct procedures for riding in single file on both one- and two-way streets; giving hand signals; making right and left turns; using warning signals and lights; and carrying packages. All pupils in grades 3-8 watched this demonstration from the sidewalk.

In addition to the primary instruction in safety, the program helped produce several concomitant learnings. Teachers seized the opportunity provided by the discussion of bicycle care for focusing attention on conservation of other equipment. Emphasis on the need for exercising care and caution in cycling resulted in a carry-over into other pupil activities in the classrooms, corridors, and schoolyard.

An eight-grade class developed its own bicycle code:

The class had just witnessed a bicycle safety program in the school assembly. Returning to the classroom and a unit of study in "problems of living," student interest in bicycles was high-pitched. They had seen a well-rounded presentation featuring a fascinating talk on the evolution of the bicycle, a brief demonstration of bicycle care and inspection, and a concluding film on bicycle safety.

The natural interest engendered by the assembly program was followed by a lively classroom discussion of bicycle safety. As members of the class reviewed what they had heard and seen in the assembly and commented on their personal experiences, two pupil secretaries recorded the main points on the

chalkboard. After some minutes of discussion, the group stopped to examine the ideas. Everyone seemed to sense that a good bicycle code was being developed.

"Why not edit the list for the school newspaper so that everyone can read it?" suggested Donald, a school "newshawk." The idea appealed to the class and they quickly developed a logical sequence, added an item or two, and rewrote each rule in consistent style.

Everyone was pleased, especially when Donald succeeded in getting the code published in the form of a boxed item on the front page of the school paper.

The bicycle has a great appeal for students of the upper elementary grades. Topics like the following suggest many worthwhile class activities:

History of the bicycle

Uses of the modern bicycle

Cycling in other countries

Selection and care of bicycles

Famous bicycle riders

Bicycle accidents and their prevention

Safety features of the modern bicycle

Rules of the road

Bicycle skill tests

Demonstrations of correct techniques

Formulation of bicycle codes

Local traffic ordinances

Health giving aspects

Fun with your bike

Bicycle clubs

Bikes and spending money.

Students in the upper grades are sufficiently mature to understand the community aspects of the bicycle problem. Community relationships should be stressed wherever they seem appropriate.

Through Student Organizations

Student councils and other student groups play a major role in developing bicycle safety programs. With proper guidance, bicycle safety activities may be placed largely in the hands of student groups. The bicycle program, then, not only becomes valuable in itself, but may serve as a means of fostering the many benefits to be derived from self-determined participation in a democratic society.

Bicycle safety activities may be carried out by such student organizations as the student council, junior safety committee, safety patrol, or homeroom group. Often, however, special student groups are formed to meet the challenge of the bicycle safety problem. These special groups may include a designated subcommittee of the student council, a bicycle club, or some other student group.

Whatever student group is set up to implement the safety program, organization for effective effort within the group is important. The bicycle safety group should have an interested and capable sponsor, well-planned guidelines, and carefully selected officers and members.

The group may function as a committee-of-the-whole for some projects. For other phases of its program, the group may have subcommittees, each with a special function or responsibility. Among the functions that may be handled by subcommittees are: program; bicycle inspection; demonstration; instruction; survey; and others suggested by local conditions.

All student bicycle groups need to work closely with other school and community groups if the total instructional effort is to be effective.

The following resource list suggests the types of activities which student bicycle groups have found challenging and effective:

Classroom Activities

Originating bicycle safety stories and poems

Making bicycle safety posters and bulletin boards

Writing and producing bicycle plays

Collecting and distributing bicycle safety literature

Selecting and mounting news items and pictures for scrapbooks and displays on bicycles

Using bicycle films and other audio-visual materials

Visiting a bicycle repair shop

Learning about the youth hostel movement in the United States and abroad

Studying the recreational values of cycling

Schoolwide Projects

Administering bicycle skill and information tests

Reflectorizing or "scotch-liting" bicycles

Conducting bicycle inspection programs

Planning assembly programs on bicycle safety

Arranging a week-end "bike-hike"

Preparing articles on bicycle safety for the school newspaper

Communitywide Projects

Surveying bicycle accident facts and circumstances

Analyzing bicycle accidents to discover causes and develop preventive measures

Developing bicycle parking facilities

Reviewing local and state laws affecting cyclists

Formulating a bicycle safety code

Planning with the police for bicycle registration

Demonstrating correct riding techniques

Helping and instructing beginners and younger children

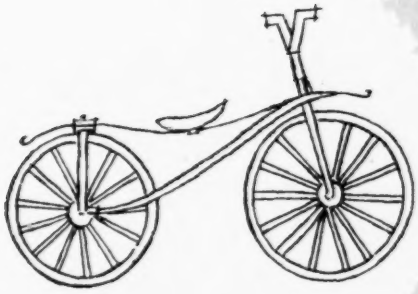
Planning bicycle field days, parades, or other events

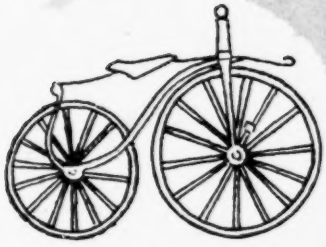
Encouraging civic groups to construct bicycle trails and lanes

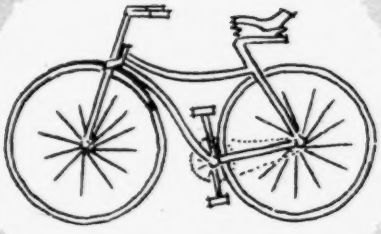
Participating in radio and television programs on bicycle safety

Cooperating with parent-teacher organizations and other community groups in bicycle safety projects

Preparing articles on bicycle safety for local newspapers.







Bicycle Safety —teaching and learning

INTERESTING source material on the bicycle and bicycle safety is often widely scattered, diversified, and difficult for teachers to obtain at the right time. As a result, many opportunities for teaching bicycle safety in the classroom are lost despite the developing interests and needs of children.

The following source material has been selected for its quality, attractiveness, and adaptability for presentation by teachers in meeting the bicycle safety needs of boys and girls at different age levels.

History of the Bicycle

Egyptian as well as Greek works of art indicate that a crude two-wheeled vehicle propelled by the feet was known to the ancients. At a later time similar machines were used in England, France, and Germany. The forerunner of the modern bicycle, however, is more directly a nineteenth century development.

THE DANDY HORSE

The real history of the bicycle began when a prince of Wales, later King George IV of England, made his first dashing appear-

ance on a dandy horse. This machine became quite a fad with the rich and fashionable people of the day, but ordinary people could not afford it. That is why the name "dandy horse" was often applied to it. Other names for this same vehicle included hobby horse, walk along, swiftwalker, and Draisine.

The dandy horse was invented in 1816 by Baron von Drais, chief forester to the Grand Duke of Baden. He found his invention a valuable vehicle in covering the forest paths. It became the first practical bicycle.

The dandy horse or Draisine consisted of two wheels of equal size, arranged in tandem and connected by a perch. The rider rested part of his weight on a wooden arm rest in front and propelled the machine by striking the ground with his feet—first one foot and then the other. A handle connected to the front wheel served as a means of steering the vehicle.

THE BONE SHAKER

In the 1860's, a French carriage maker, Pierre Lallemont, developed a bicycle more nearly like the modern bicycle. It had cranks and pedals fitted to the front wheel and axle, by which the cyclist could propel it after the manner of our present-day tricycle.

This vehicle had a wooden frame and large wheels with iron band tires. It was aptly called a bone shaker from the rough treatment it gave the rider on the rutted and cobbled streets of that day.

In the late 1860's, however, light metal wheels with wire spokes and solid rubber tires were introduced. These improvements overcame much of the difficulty in handling the early bicycles.

THE ORDINARY

The first all-metal bicycle was produced in the 1870's. It had a very large front wheel and a very small rear wheel. In some models the front wheel was five feet high, or even higher, while the diameter of the rear wheel was as little as twelve inches. The larger the front wheel, the greater the distance traveled at each turn of the pedals attached to the front axle. Consequently, the tall man with the larger wheel had a decided advantage in speed over the small man. Speeds of thirty miles an hour or more could be attained by a powerful person without too much exertion.

The average ordinary of 1875, sometimes called a roadster, weighed sixty-five pounds as contrasted with about thirty-five

pounds for an American lightweight bicycle. It had a steel frame and solid rubber tires. The ordinary became quite popular, but it had serious defects. Most important, it was not safe. The size, weight, and difficulty in mounting this bicycle, coupled with the fact that the seat was more than five feet above the ground and nearly over the center of the large front wheel, made falls or headers somewhat frequent and dangerous.

THE FIRST SAFETY BICYCLE

In the 1880's, the first safety bicycles were made. They were the prototype of the present-day, streamlined, balloon-tired bicycle. They had front and rear wheels of the same diameter, making them much safer than their predecessor, the ordinary. A chain drive transmitted power from the pedals to the rear wheel, and was geared in such a manner that a small cyclist had relatively the same advantage as a larger one.

This bicycle solved the problem of achieving speed with safety, and ushered in the golden era of the bicycle during the gay nineties. The popularity of the bicycle was marked during the late nineteenth and early twentieth centuries. While numerous refinements were still to be developed, the modern bicycle generally resembles the bicycles of this earlier period. Some of the early types, however, have largely disappeared from use. Seldom seen today are the companionable or tandem for two or more persons.

THE MODERN BICYCLE

The modern bicycle differs from its immediate predecessor chiefly in the matter of refinements. The pneumatic tire, for example, did much to add to the comfort of cycling. It was patented in 1888 by John B. Dunlop, an Irish surgeon. He developed the idea for the modern tire by fitting pieces of ordinary garden hose around the wheels of his son's bicycle.

The most significant safety feature of the modern bicycle is the coaster brake. This remarkable mechanism enables the cyclist to coast or to stop quickly at will. Coasting is achieved merely by refraining from pedaling which puts the bike in "free-wheeling." Braking is accomplished by pressing backward on one of the pedals. This action wedges a shoe against a brake drum, thus reducing speed or stopping the bicycle depending upon the amount of pressure applied.

Other refinements in the modern bicycle include adjustable

handle bars and cushion saddles, drop frames for ladies bicycles, ballon tires, variable gears on some lightweight bicycles, front wheel and hand brakes, electric headlamps and sound warning devices and many useful accessories.

THE LIGHTWEIGHT MODERN

The lightweight bike has become quite popular during the last decade. It differs from pre-World War II models primarily in frame structure and tire style. In some respects it resembles a racing bike in simplicity of lines and lack of adornment while, at the same time, retaining the comfort and functional features of traditional models.

Criteria for Selecting a Bicycle

Many factors need to be considered in selecting a bicycle. Among the more important ones are: reliability of manufacturer; reliability of retailer; purpose the bicycle is to serve; weight of bicycle; strength of construction including a strong properly welded frame, a tubular fork, and extra bars and rods; brake mechanism; tail light or large reflector; horn or bell (sirens and whistles are illegal except on emergency vehicles); chain and spoke guards; and price.

Other items that should be considered at the time a bicycle is being selected include: appearance; tire quality; and useful accessories such as headlight, rear luggage carrier, rearview mirror, and carrying basket.

Parents and children often do not give adequate thought to matching the size of the bicycle to the size of the child. Safe and comfortable cycling requires that the vehicle be properly suited to the child. While limited adjustments may be made by raising or lowering the seat and handle bars, the bike should be of a size that fits the rider. Obviously when a bike is too large for a child, it will sway from side to side in seesaw fashion as the child pedals. When it is too small, he may bump his knees against the handle bars and steering may be difficult. In either case the bike is more difficult to handle.

One of the more practical ways to help children with the problem of bicycle selection is to invite a reliable retailer to tell and demonstrate what makes a bicycle durable, dependable, and safe. Often, too, it is possible to obtain help from a member of an

adult bicycle club, a bicycle racer, or someone who has taken frequent trips on a bicycle.

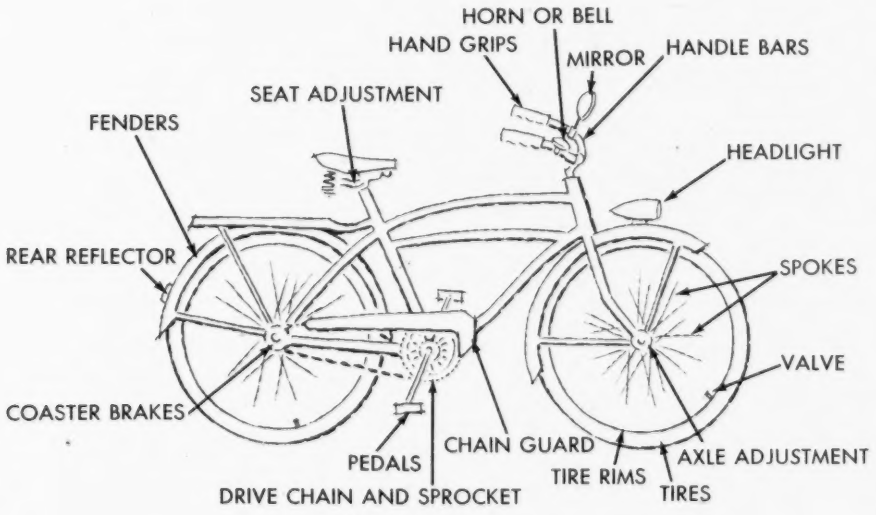
Teachers find that a bicycle in the classroom during safety instruction creates interest and also permits the practical demonstration of many points discussed.

Bicycle Care and Inspection

Like any other vehicle or mechanism, the bicycle needs proper care and use. Everyone can keep a bicycle clean and properly oiled. Everyone can also avoid harmful and foolish practices such as jumping curbs and riding down steps. Almost everyone can make minor repairs and adjustments on a bicycle but major repairs should be made by a reliable serviceman.

Keeping a bicycle in good condition is one of the best ways to enjoy its use thoroughly. To those who treasure ownership, properly caring for a bicycle can bring joy and satisfaction nearly equal to cycling itself.

The following chart was prepared to show the parts of a bicycle that need regular care and attention. Periodic inspection and servicing of the items shown on this chart will maintain the mechanical condition of a bicycle.



Bicycle Inspection Record

(This is a reproduction of one side of a two-sided bicycle record card developed and used in the public schools of Oklahoma City, Oklahoma.)

Parts of Bike	OK	Needs Cementing	Needs Tightening	Needs Adjusting	Needed	Too Much Air	Not Enough Air	Broken	Too Large	Needs Repair	Inspector
Hand Grip											
Handle Bars											
Horn or Bell											
Pedals											
Seat											
Spokes											
Correct Size											
Sprocket Chain											
Sprocket Chain Guard											
Frame											
License											
Brakes											
Tires											

Teachers often develop bicycle inspection blanks with their classes or with special groups. The points in the above chart will serve as guides in drawing up such blanks. While readymade bicycle inspection blanks are obtainable from several sources, teachers find that boys and girls benefit more from preparing and reproducing their own blanks for use in bicycle inspection projects which they themselves have planned. In any event, reference to such a chart can help children to develop a thorough and orderly inspection procedure.

Traffic Signs, Signals, and Markings

Cyclists, like motorists, should be able to recognize and interpret traffic signs, signals, and markings. Knowing the "sign language" of the road is important to anyone who wants to stay alive. Here are some basic facts:

Traffic signs are used to regulate, warn, and guide traffic. The shape of a sign indicates the nature of its meaning

Octagon .....STOP

Diamond .....SLOW (warning of hazard in or adjacent to roadway)

Round .....RAILROAD CROSSING (advance warning)

Rectangle .....REGULATES TRAFFIC OR GIVES INFORMATION

Crossbuck .....RAILROAD CROSSING

Triangle (with point downward) .....YIELD

Traffic signals showing red, yellow, and green lights are familiar to everyone. Less known signals include

Flashing red light .....STOP

Flashing yellow light .....CAUTION

Green arrows .....TURNS AND STRAIGHT AHEAD

Pedestrian signals

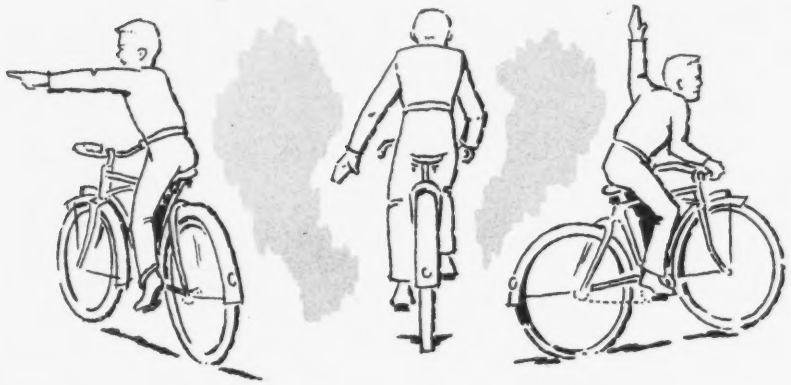
WALK (either green or white letters)

DON'T WALK (either red or orange letters)

Traffic markings, usually white or yellow, are painted on the pavement to define center lines, lanes, no-passing zones, stop lines, crosswalks, turns, etc. Some markings supplement signs and signals while others (notably center lines and lane lines) are used independently.

Arm-Hand Signals

Cyclists should use arm and hand signals to inform others of their intention to turn, reduce speed, or stop. Signaling is done with the left arm and hand. Signals should be made far enough



in advance to give adequate warning and enable the rider to place his hand back on the handle bars for proper control before executing the maneuver. In addition, a cyclist should glance back over his shoulder before leaving his lane to be sure that the move can be made safely.

NOTE: The sign, signal, and marking information presented are in agreement with the 1963 *Manual on Uniform Traffic Control Devices.* While educators should promote and support the cause of uniformity, they must include thorough explanations of local exceptions to the above standards.

Cycling "Know How"

As in all challenging sports, cycling has secrets that make for more pleasure with less effort. A cyclist should assume a comfortable position on a bicycle of the right size. He should sit fairly erect but with the body bent slightly forward in an easy, flexible posture.

Handle bars should be as nearly parallel with the ground as comfort permits. For the average person the saddle or seat should be tilted slightly upward at the front and adjusted so that the peak or front of the saddle is directly above the center of the crank hanger. The saddle should be high enough so that the rider's knee will be bent slightly when the ball of his foot rests on the pedal at its lowest position.

To pedal rhythmically and with least effort, the ball of the foot should be kept on the pedal at all times. Efficient pedaling comes from using this part of the foot as it permits a flexing of the ankle and helps the cyclist to apply power throughout the greater part of each revolution of the pedal. Flexing the ankles at the top and bottom of each stroke, and to a degree throughout each stroke, makes for smoother and more powerful pedaling than is possible with flat-footed pedaling.

Movement will be more graceful if the cyclist keeps his knees close to the frame because the knee joint is a hinge that works best when it bends normally. Elbows, too, should be kept in and head held naturally straight. Doing these things eliminates waste motion and simplifies steering comfort.

The cyclist with "know how" selects good secondary roads away from heavy traffic whenever possible. Such roads are much safer and often more scenic and interesting. In hilly country the smart person does not waste energy by pumping up hills. He dismounts and walks up, unless he has a lightweight bicycle with a gearshifting device. In this case he can negotiate almost any hill with ease by shifting into low gear.

Comfortable sport clothing is usually best for cycling because it allows free movement. At night, light-colored clothing makes one more visible to drivers. Heavy winter clothing requires added

caution on the part of cyclists. High collars and hoods may restrict vision and, to some extent, hearing. A properly adjusted rear-view mirror, always desirable, is particularly useful under such conditions. Children who suffer from chronic hearing deficiencies should be carefully instructed in mirror usage.

Beginners and persons not accustomed to cycling should avoid riding too far or too fast and should limit night riding to necessary occasions. While cycling is a very enjoyable and healthful form of body-building exercise, it should not be overdone.

Cycling Skill Tests

The following skill tests illustrate types that may be planned in the classroom for later use outdoors. When properly supplemented by other bicycle activities such as inspections or parades, these tests may serve as the basis for a bicycle field day. Since skill is an important factor in bicycle safety, these tests have educational as well as interest and public relations values.

The tests suggested here can be modified. The teacher and students can plan variations and also change the method of scoring. For any given occasion, however, the tests used should be the same and should be scored alike for each student. Also each student should be given the same number of trial runs in each test before being scored. Students may compare their aggregate scores after all tests have been given.

Balancing at Slow Speed

Using white chalk, mark a lane three feet wide and 50 feet long. Have each pupil ride the total distance at the slowest possible speed, keeping inside the lane lines.

Deductions from score of 100 points

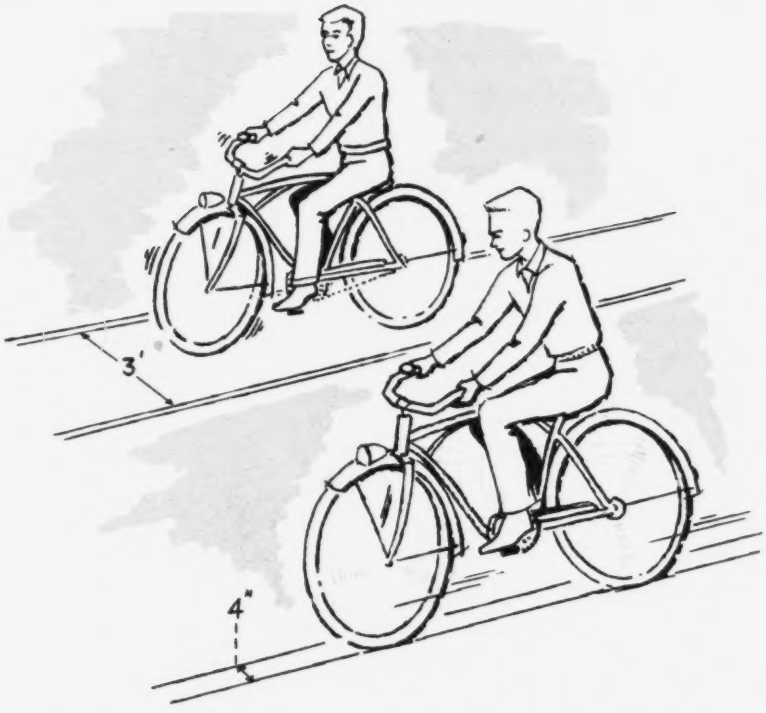
2 points each time a tire touches either lane line

5 points each time a wheel rolls outside the lane on either side

10 points each time he falls or touches the ground with either foot

1 point for each second of time less than one-half minute for traveling a distance of fifty feet.

(Note: Points may be added to score on the basis of one point per second for time in excess of one-half minute.)



Steering

Have each student ride at a comfortable speed for thirty feet between parallel lines placed four inches apart.

Deductions from score of 100 points

2 points each time a tire touches either line

5 points each time a wheel rolls outside the line on either side

10 points each time a cyclist falls or touches the ground with either foot

Riding in a Circle

Mark two concentric circles with diameters of *twelve* feet, and *sixteen* feet, to make a circular path *two feet* wide. Have each pupil stay within the path while riding around the circle four times at a comfortable speed.

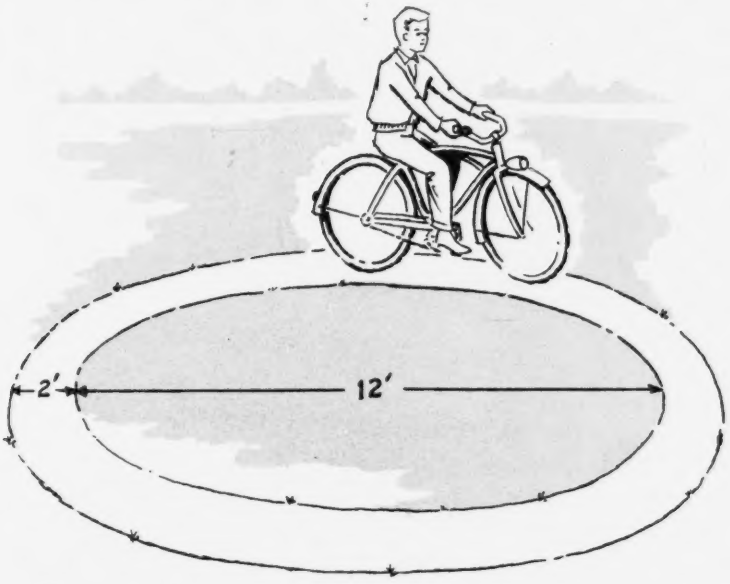
Deductions from score of 100 points

2 points each time a tire touches either circular line

3 points each time a wheel rolls off the path (either toward the inside or outside)

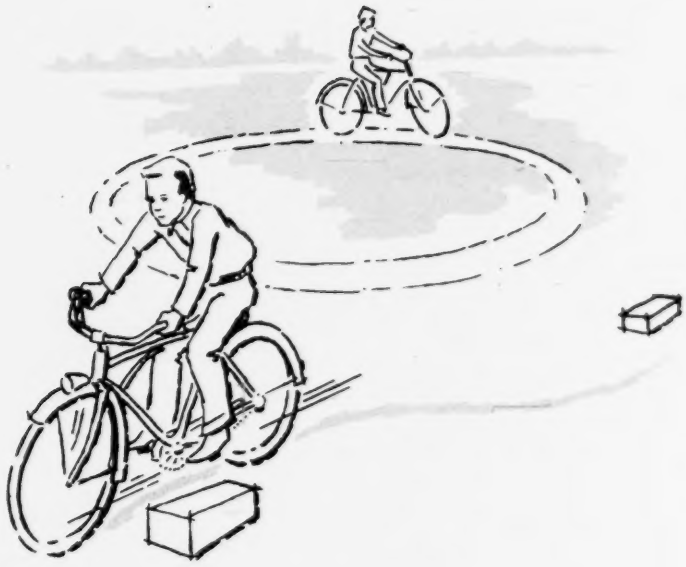
5 points each time both wheels of the bicycle roll off the path either inside or outside

10 points each time the cyclist falls or touches the ground with either foot



Maneuvering

Place cardboard cartons twenty-five feet apart along a straight line 150 feet long (seven markers required). Have each pupil travel at a comfortable speed—weaving to pass on alternate sides of the markers.



Deductions from score of 100 points

5 points each time a marker is touched by any part of the pupil or his bicycle

10 points each time he falls or touches the ground with either foot

Braking

Using a portion of the testing area, have each pupil pedal continuously at a comfortable speed. At some point in this ride give the command "STOP" as a signal for the cyclist to make an emergency stop in a straight line.

Deductions from score of 100 points

5 points if he stops pedaling before the command is given

5 points if he swerves in making the stop

10 points if he falls or touches the ground with either foot before stopping

Bicycle Safety Codes

Codes for safe cycling are valuable to the extent that riders observe them. The meanings and implications of rules and regulations need to become part of the thinking of each cyclist before he can be expected to follow safe practices.

Bicycle safety codes have the most meaning when youngsters in the classroom develop them through discussions and activities. Codes made by children themselves under the skillful guidance of teachers are far superior to ready-made lists of rules and regulations.

Teachers and pupils will find the following resource list to be a helpful guide in developing safe cycling codes. The teacher should make certain that all codes developed by pupils conform to local and state regulations.

At the Start

Use a bicycle of the right size, adjusted to comfort

Practice in a safe place away from traffic.

Clothing and Health

Light-colored clothing will make it easier for drivers to see you at night

Avoid traveling long distances on hot days

After eating, allow at least one-half hour before strenuous riding.

Bicycles Are Traffic

Observe signs, signals, markings and all other traffic regulations

Move in a straight line with other traffic and keep to the side of the street

Always travel single file on busy streets and never more than two abreast on any street

Give pedestrians the right-of-way

Avoid riding on the sidewalk

A bicycle is built for only one person

Reduce speed at all street intersections and look to the left, then to the right, and again to the left before crossing

Use arm-hand signals far enough in advance to permit returning your hand to the handle bars for proper control during the maneuver

Never pass another vehicle on a hill, curve, street intersection, or railroad grade crossing

Stop before crossing the sidewalk when coming out of an alley or driveway

Travel under your own power

Get off the roadway for emergency vehicles using red lights or sirens

Report all serious accidents to police or other authorities

Park your bicycle in places provided or at the edge of the sidewalk where permitted.

Always

Make sure the way is clear before starting; conditions may have changed since you last looked

Carry packages only if your bicycle has a basket or luggage carrier

Cross all streetcar tracks cautiously and as near at right angles as possible

Avoid traveling too fast down hills and on slippery or rough roads

The presence of a dog is a signal for caution even though he appears to be friendly.

When you Ride Downtown

Move in a straight line without weaving

When passing parked cars, watch for pedestrians coming from between them and for doors to open on the traffic side

Stay a safe distance away from trucks, buses, and other vehicles because the drivers cannot see you easily

When making left turns at signalized intersections, dismount and walk your bike to the far corner with the green light; then wait until the light changes before starting off in the new direction

When making left turns at uncontrolled intersections, check traffic, signal, place both hands on the handle bar, move gradually into the correct lane, make turn, check traffic over your right shoulder, signal, and move to the proper lane

Keep out of narrow places between vehicles, especially in a right-turn situation

Beware of cars traveling in the same direction which may make right turns or swing into parking places

Walk your bike across all busy intersections

When planning to turn right and forced to stop, stop even with the back end of the car ahead.

It is Your Bike

Keep your bicycle in perfect running condition; check the brakes and other vital parts frequently

Have a horn or bell in good working condition

For night cycling, have a white light in front visible at 500 feet and a red light or large reflector on the rear visible at 300 feet

Get off the roadway if you need to make repairs or adjustments.

And Remember

Refuse to take dares or chances
Be a good sport; exercise care and courtesy.

Bicycle Safety —a joint responsibility

NO single agency can, by itself, bring about maximum safety in the use of bicycles. This problem spreads across the board and its solution is in the combined hands of the school, the home, and the community. Each has a singular influence in achieving safe cycling. By working cooperatively these institutions can magnify the positive values of all efforts.

What the School Should Do

The bicycle problem is part of a larger problem—that of achieving safety and efficiency in the movements on streets and highways. It involves cyclists, pedestrians, and motor vehicle operators. In helping children learn to use bicycles with safety, efficiency, and enjoyment, the school is not only preparing them to live more effectively as children, but is contributing in an important way to sound citizenship values.

It has been demonstrated that children learn best when learnings are closely related to the achievement of purposes which are important to them. Cycling is one of the activities which most children consider to be vital in their lives. The school should take advantage of this natural interest by providing learning opportunities which will help children develop their ability to use bicycles safely and efficiently.

As has been pointed out in previous sections of this bulletin, the normal activities of children, both in the school situation and elsewhere, are filled with opportunities to teach bicycle safety and to apply general safety principles to cycling. Therefore, bicycle safety has a logical place in the learning process for young people.

In setting out to utilize existing opportunities for instruction, school personnel quickly realize that the home and other agencies in the community (notably the police) have a direct interest in bicycle safety. If the school, however, does not exercise leadership in developing needed instructional activities, other community agencies frequently neglect the responsibility. Therefore, school leadership is needed before other community forces may effectively be directed toward this problem.

The following items suggest some of the basic approaches for developing bicycle safety instruction in schools. These suggestions should be applied to fit local conditions that vary among communities.

The Principal Should

Initiate the planning for a bicycle safety program

Stimulate teacher interest in bicycle safety

Encourage pupil participation in various bicycle safety activities

Arrange for representatives of other community groups to work with teachers and pupils in the planning

Help make bicycle safety instruction a continuous effort throughout the school

Provide opportunities for teachers and pupils to explain and demonstrate bicycle safety practices to the parents

Interpret the school's work in bicycle safety to the community

Evaluate the effectiveness of bicycle safety instruction.

The Teacher Should

Determine generally what types of bicycle safety instruction the pupils in his class need most

Seize every opportunity to develop needed information and desirable attitudes regarding bicycle use, integrating this instruction with daily learning activities

Use available community resources to increase the effectiveness of bicycle safety instruction

Help parents understand some of the things they can do in the home that will support what the school is trying to do in bicycle safety

Conduct mechanical inspections of bicycles.

The Pupil Should

Assume personal responsibility for observing sensible bicycle practices

Learn how to keep his own bicycle in good mechanical condition

Take part in bicycle safety activities at the school and elsewhere in the community

Develop habits and skills that will help him get more benefit from cycling

Help his parents understand why bicycle safety is important.

The principal, teachers, and pupils should work together in developing a plan for the use of bicycles to and from school. The main elements of such a plan include:

Defining which pupils will be permitted to bring bicycles to school (based on age, grade level, and/or distance from home to school)

Developing a simple code of bicycle behavior to be observed by pupils (covering such items as where they will dismount and walk their bicycles, use of bicycles during noon hour and recess periods, where and how pupils will park their bicycles, and equipment for carrying books and lunch boxes)

Providing for pupil supervision to assure observance of the code developed

Constructing or obtaining bicycle parking racks for use at the school

Informing parents of the plan and requesting their cooperation.

What the Home Should Do

Most parents grew up when there was little need for bicycle

safety instruction. Before they can be expected to support the bicycle safety effort, they need to know that there is a problem and what the school and other community groups are doing about it.

The school, often with help from other groups, can acquaint parents with the problem and point out some of the things that only the parents can do for their children to make bicycle safety possible. For example, parents can:

Select a bicycle of the proper size, equipped with required safety devices

Know the rules and regulations affecting cyclists

Help their children practice in safe locations away from traffic

Provide for adjustments and repairs to keep bicycles in good mechanical condition

Restrict privileges for cause when necessary

Curtail unnecessary night use of bicycles

Stimulate parent-teacher associations and other community groups to undertake specific bicycle safety activities that will complement the school's instructional program.

What the Police Should Do

The relationship of bicycles to the whole traffic problem is so direct that the services of the police department are a necessary part of any joint effort for bicycle safety. In some communities the police department rather than the school has taken the initiative in developing a bicycle safety program.

Wherever bicycle ordinances have been adopted, the police department is the logical agency to enforce the laws governing cyclists. The police realize, however, that the effectiveness of their enforcement depends largely on the attitudes and cooperation of the school and home.

The school, with help from other community groups, can acquaint the police department with the instructional program in bicycle safety and can suggest activities in which help from the police is vital to the success of this program. For example, the police can:

Advise the school about the regulations affecting cyclists

Keep the school and community informed about local bicycle accidents

Provide speakers on bicycle safety for parent-teacher meetings and for school assemblies

Aid in developing local plans for registering bicycles

Assist with many special activities involving bicycles.

Other Community Groups

The role of other community groups varies from place to place. Look about your own community to see what groups have an interest in bicycle safety. Valuable assistance of many different kinds may be readily available.

Before seeking assistance, however, develop your plans at the school to the point where you know definitely the kinds of help you need to insure the success of the school program in bicycle safety.

Here are some of the organizations from which you can request the help you need: automobile clubs; bicycle clubs; bicycle manufacturers; bicycle retailers; boy scouts; business and professional groups; citizens' associations; colleges and universities; farm groups; girl scouts; insurance companies; local police departments; motor vehicle departments; newspapers; parent-teacher associations; public safety departments; radio and television stations; Red Cross chapters; safety councils; service clubs; state departments of education; state police or highway patrol; women's clubs; and youth hostels.

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